

REMARKS

Applicants respectfully request reconsideration of this application as amended.

As a preliminary matter, applicants respectfully disagree with the Office Action's assertions regarding the information disclosure statements previously submitted. Applicants respectfully submit that the information disclosure statements were filed to comply with the duty of disclosure. The Examiner is invited to call the undersigned attorney for a discussion of the relevance of the cited references.

Claims 5, 16, and 88 have been rejected under 35 U.S.C. §112, second paragraph.

Claims 1-3, 6-9, 11-14, 16, 84-86, 89-96, and 105 have been rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. JP 4-343,318 of Nakagawa et al. ("Nakagawa").

Claims 1-3, 6-9, 11-14, 16, 84-86, 89-96, and 105 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,959,760 of Yamada et al. ("Yamada").

Claims 1-3, 8, 9, 11-14, 16, 35-40, 42-44, 84, 85, 87, 88, 91-96, 104, and 105 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,075,639 of Kino et al. ("Kino").

Claims 4, 5, and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nakagawa and U.S. Patent No. 5,554,304 of Suzuki ("Suzuki").

Claim 10 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Nakagawa and U.S. Patent No. 5,739,941 of Knipe et al. ("Knipe").

Claims 10 and 41 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kino and Knipe.

Claims 45 and 46 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kino and U.S. Patent No. 6,028,689 of Michalick et al. ("Michalick").

Claims 13-14, 14-37, 47-83, 87-88, 97-104, and 106-119 have been canceled without prejudice.

New claims 120-124 have been added.

Claims 1-12, 15-16, 35-46, 84-96, and 105 remain pending in the application. Claims 1-5, 7, 12, 35-37, 39, 44-45, 87-89, 92, and 94 have been amended. The amended claims are supported by the specification and do not add new matter. Claims 120-124 have been added and no new matter has been added.

The Examiner has objected to the drawings under 37 C.F.R. § 1.83(a). In particular, the Examiner has stated the following:

The drawings are objected to under 37 C.F.R. 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the additional surfaces on which the traces are disposed (Claim 87) and the traces positioned on the stage and flexure couple to the second blade (frame) (claim 88) must be shown or the feature canceled from the claims. No new matter should be entered.

(12/24/02 Office Action p. 2).

Claim 87 and 88 have been canceled without prejudice. New claim 123 has been added which is supported by Figure 7B of the drawings and by the specification at page 25, lines 4-16. It is respectfully submitted that the objection to the drawing has been overcome.

The specification has been objected to as failing to provide antecedent basis for the claimed subject matter. Correction of the following was requested: first side, second side, first width, second width, and the additional surface of the stage.

Applicants respectfully submit that the terms and phrases used in the claim need not be limited to the exact nomenclature appearing in the description. Rather, the terms and phrases

used in the claims must find clear support in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. 37 CFR § 1.75(d)(1).

Nevertheless, applicants have amended the claims to clarify the meaning of the term “surface.” Applicants submit that the meaning of the terms “undersurface” and “top” surface of the stage may be ascertained by reference to the description, for example, by reference to Figures 2A, 2B, 6-8 and their accompanying description. Applicants have canceled the claims that referred to an “additional surface.”

Applicants respectfully submit that the meaning of the terms first side, second side, first width, and second width may be ascertained by reference to the description without further clarification. For example, by reference to Figures 3A and 4, and their accompanying description, the terms “first side has a first width” and “second side has a second width different than the first width” may be ascertained. As such, applicants request that the objections be withdrawn.

The title has been objected to as not descriptive. Applicants have amended the title. Applicants respectfully submit that the objection to the title has been overcome.

Claims 5, 16, and 88 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action states that

Claim 5 recites the limitation “the moveable frame”. Claim 16 recites the limitation “the flexure”. There is insufficient antecedent basis for these limitations in the claims. Claim 88 is vague and indefinite because it is unclear how the electrical trace will be coupled to the second blade (on the frame) when it is positioned on the additional surface of the stage and the flexure.

(12/24/02, Office Action p. 4).

Applicants submit that amended claim 5 overcomes the rejection under 35 U.S.C. § 112, second paragraph, given that the word “movable” has been deleted.

With respect to claim 16, applicants submit that there is sufficient antecedent basis for the claim limitation "the flexure." Applicants respectfully wish to remind the Examiner that claim 16 was previously amended in a preliminary amendment of May 2, 2001 to depend from claim 91 and that claim 91 introduces the claim term "a flexure." Therefore, applicants request that the rejection under 35 U.S.C. § 112, second paragraph, with respect to claim 16 be withdrawn.

Applicants have canceled claim 88 without prejudice.

Claims 1-3, 6-9, 11-14, 16, 89-96, and 105 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Nakagawa. Applicants submit that claim 1 is patentable over the cited reference.

Amended claim 1 reads as follows:

An apparatus, comprising:

- a stage having an undersurface;
- a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage;
- a frame having an undersurface, the stage pivotally coupled to the frame; and
- a second blade coupled to the frame, the second blade extending perpendicularly from the undersurface of the frame, the second blade being in proximity with the first blade.

(Amended claim 1)(emphasis added).

The Office Action states that

Nakagawa teaches a stage 1 having **blades 4a which extend perpendicular to the upper surface of the stage**, where the stage is surrounded by a frame having a surface 15a with blades extending perpendicular to the frame. The first and second blades being perpendicular to each other with the distance between the blades being maintained during relative motion of the blades. The stage supported by non-parallel beams 3a and 3b.

(12/24/02 Office Action p. 5)(emphasis added).

Applicants respectfully disagree with the Office Action's characterization of Nakagawa. In particular, applicants respectfully submit that blade 4a of Nakagawa does not extend perpendicular to the upper surface of the stage 1 but, rather, lateral to the upper surface (i.e.,

perpendicular to a side surface) of stage 1. Moreover, applicants submit the blade 4a of Nakagawa does not extend perpendicularly from the undersurface of stage 1.

In contrast, amended claim 1 refers to “a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage.” (emphasis added). Therefore, applicants submit that amended claim 1 is patentable over Nakagawa.

Given that claims 2-3, 6-9, 11, 84-86, 89-90 and 105 depend from claim 1, applicants submit that claims 2-3, 6-9, 11, 84-86, 89-90 and 105 are also patentable over the cited reference.

For reasons similar to those given above with respect to overcoming the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Nakagawa, applicants submit that claims 12, 16, and 91-96 are also patentable over Nakagawa.

Claims 13 and 14 have been canceled without prejudice.

Claims 1-3, 6-9, 11-14, 16, 84-86, 89-96 and 105 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Yamada. Applicants submit that amended claim 1 is patentable over the cited reference.

Amended claim 1 reads as follows:

An apparatus, comprising:

- a stage having an undersurface;
- a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage;
- a frame having an undersurface, the stage pivotally coupled to the frame; and
- a second blade coupled to the frame, the second blade extending perpendicularly from the undersurface of the frame, the second blade being in proximity with the first blade.

(Amended claim 1) (emphasis added).

The Office Action states that

Yamada teaches a stage with a mirror 2 having **blades 5 which extend perpendicular to the upper surface of the stage**, where the stage is surrounded by a frame 6 having a surface with blades 7a,b extending perpendicular to the frame. The first and second blades being perpendicular to each other with the distance between the blades being maintained during relative motion of the blades. The stage supported by non-parallel beams 3a and 3b.

(12/24/02 Office Action p. 6)(emphasis added).

Applicants respectfully disagree with the Office Action's characterization of Yamada. In particular, applicants respectfully submit that electrode 5 of Yamada does not extend perpendicular to the upper surface of the mirror 2 but, rather, lateral to the mirror's surface. Moreover, applicants submit electrode 5 of Yamada does not extend perpendicularly from the undersurface of mirror 2. (See, e.g., Figure 2B of Yamada).

In contrast, amended claim 1 refers to "a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage." (emphasis added). Therefore, applicants submit that amended claim 1 is patentable over Yamada.

Given that claims 2-3, 6-9, 11, 84-86, 89-90 and 105 depend from claim 1, applicants submit that claims 2-3, 6-9, 11, 84-86, 89-90 and 105 are also patentable over the cited reference.

For reasons similar to those given above with respect to overcoming the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Yamada, applicants submit that claims 12, 16, and 91-96 are also patentable over Yamada.

Claims 13 and 14 have been canceled without prejudice.

Claims 1-3, 8, 9, 11-14, 16, 35-40, 42-44, 84, 85, 87, 88, 91-96, 104, and 105 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Kino. Applicants submit that amended claim 1 is patentable over the cited reference.

Amended claim 1 reads as follows:

An apparatus, comprising:
a stage having an undersurface;
a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage;
a frame having an undersurface, the stage pivotally coupled to the frame; and
a second blade coupled to the frame, the second blade extending perpendicularly from the undersurface of the frame, the second blade being in proximity with the first blade.

(Amended Claim 1) (emphasis added).

Kino discloses that electrodes 47 and 48 are formed on the mirror 37. Spaced electrodes 52, 53 are formed on frame 38. (Kino, col. 3, lines 1-4). As illustrated by Figure 5 of Kino, electrodes 47 and 48 are disposed on the **top** surface of mirror 37.

In contrast, amended claim 1 refers to “a first blade coupled to the stage, the first blade extending **perpendicularly from the undersurface** of the stage.” (emphasis added). Therefore, applicants submit that amended claim 1 is patentable over Kino.

Given that claims 2-3, 8, 9, 11, 84, 85, and 105 depend from claim 1, applicants submit that claims 2-3, 8, 9, 11, 84, 85, and 105 are also patentable over the cited reference.

For reasons similar to those given above with respect to overcoming the rejection of claim 1 under 35 U.S.C. § 102(e) as being anticipated by Kino, applicants submit that claims 12, 16, 35-40, 42-44, and 91-96 are also patentable over Kino.

Claims 13-14, 87-88, and 104 have been canceled without prejudice.

Claims 4, 5, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa and Suzuki. In particular, the Office Action states that

Nakagawa teaches every aspect of the invention except the blades being tapered with a different widths [sic]. **Suzuki teaches the electrodes are tapered with different widths** to control the required driving forces between the electrodes. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Nakagawa with the tapered blades because Suzuki teaches that a smaller driving force is required from taper electrodes.

(12/24/02 Office Action p. 7)(emphasis added).

Claims 4, 5, and 15 depend from claim 1. Applicants submit that Suzuki fails to cure the deficiencies noted above with respect to claim 1 and, therefore, claims 4 and 15 are patentable over the combination of Nakagawa and Suzuki.

Claim 10 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa and Knipe. Claim 10 depends from and includes all the limitations of claim 1. Applicants respectfully submit that Knipe fails to cure the deficiencies of Nakagawa noted above

with respect to claim 1. Therefore, applicants submit that claim 10 is patentable over the combination of cited references.

Claims 10 and 41 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kino and Knipe. Claim 10 depends from and includes all the limitations of claim 1. Applicants respectfully submit that Knipe fails to cure the deficiencies of Kino noted above with respect to claim 1. Therefore, applicants submit that claim 10 is patentable over the combination of cited references.

Claim 41 depends from and includes all the limitations of claim 35. Applicants respectfully submit that Knipe fails to cure the deficiencies of Kino noted above with respect to claim 35. Therefore, applicants submit that claim 10 is patentable over the combination of cited references.

Claims 45 and 46 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kino and Michalicek. Applicants submit that amended claim 45 is patentable over the cited references.

Amended claim 45 reads as follows:

An apparatus, comprising:

- a plurality of actuators, each of the plurality of actuators comprising:
 - a central stage;
 - a movable frame disposed around the central stage;
 - a first blade coupled to the central stage, **the first blade extending perpendicularly from an undersurface of the central stage;** and
 - a second blade coupled to the movable frame, the second blade extending perpendicularly from an undersurface of the movable frame, the second blade being in proximity with the first blade; and
- a fixed frame disposed around each movable frame of the plurality of actuators.

(Amended claim 45) (emphasis added).

Kino discloses that electrodes 47 and 48 are formed on the mirror 37. Spaced electrodes 52, 53 are formed on frame 38. (Kino, col. 3, lines 1-4). As illustrated by Figure 5 of Kino, electrodes 47 and 48 are disposed on the **top** surface of mirror 37. In contrast, amended claim

45 refers to "the first blade extending **perpendicularly from an undersurface** of the central stage." (emphasis added). Michalicek fails to cure this deficiency. Therefore, applicants submit that claim 45 is patentable over the combination of cited references.

Given that claim 46 depends from claim 45, applicants submit that claim 46 is also patentable over the cited references.

New claims 120-124 have added.

Given the new claims 120 and 121 are dependent claims with respect to claim 1, applicants respectfully submit that new claims 120 and 121 are patentable over Nakagawa, Yamada, and Kino. Given that new claims 122-124 are dependent claims that depend directly or indirectly with respect to claim 35, applicants respectfully submit that new claims 122-124 are patentable over Kino.

Applicants reserve all rights with respect to the applicability of the doctrine of equivalents.

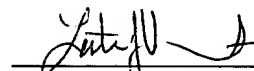
Applicants respectfully submit that in view of the arguments and amendments set forth herein, the applicable objections and rejections have been overcome.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Lester J. Vincent
Registration No. 31,460

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025
(408) 720-8300